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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,625	10/20/2003	Hiroyuki Kawamoto	244149US2	1788

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314		

EXAMINER	
WOLDEMARIAM, AKILILU K	

ART UNIT	PAPER NUMBER
2609	

NOTIFICATION DATE	DELIVERY MODE
07/11/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/687,625

Applicant(s)

KAWAMOTO ET AL.

Examiner

Aklilu k. Woldemariam

Art Unit

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 01/11/2003; 01/20/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on Feb 11, 2003 was filed after the mailing date of the same on Feb 11, 2003. The second information disclosure statement (IDS) submitted on January 20, 2004 was filed after the mailing date of the same on January 20, 2004. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-2 and 5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishigaki, hereinafter Nishigaki (U.S Patent number 7,009,722 B1) in view of Imaizumi et al., thereafter Imaizumi (U.S Patent number 6,816,618 B1).

Regarding claim 1, Nishigaki discloses an image processing apparatus comprising an image storage unit that stores plurality types of image data (See column

1, lines 19-20) in a first data format and that is compressed (see column 2, lines 24-25); a data format converter that converts the first data format of the image data to a second data format being a general data format (see column 2, lines 34-41); and a communicator including a communication transmits the image data (see column 5, lines 25-26 and column 6, lines 25-30) of the first data format and the image data of the second data format as reference image data for the image data of the first data format (column 2, lines 34-41).

Nishigaki does not disclose a communication interface.

However, Imaizumi discloses a communication interface (see column 3, lines 46-50).

It would have been obvious to someone of the ordinary skill in the art at the time when the invention was made to use [Imaizumi's] communication interface in [Nishigaki's] communication transmits in order to manage the memory size in the system [Imaizumi's, column 2, lines 40-41].

Regarding claim 2, Nishigaki discloses an image processing apparatus according to claim 1, wherein the data format converter comprises an expander that expands the image data stored in the image storage unit (see column 5, lines 50-54) ; a multinary unit that converts image data expanded of low bits to multinary image data (see column 6, lines 18-19); and a data compressor (see column 6, lines 53-57) that compresses the multinary image data in a multinary general compression format.

Regarding claim 5, Imaizumi discloses the image processing apparatus according to claim 1, wherein the data format converter comprises at least one resolution

converter of a multinary resolution converter that performs resolution conversion on the image data stored in the image storage unit, which is multinary image data (see column 12, lines 10-14); and a binary resolution converter that performs resolution conversion on the binary image data (see column 12, lines 10-14).

Regarding claim 6, Imaizumi discloses the image processing apparatus according to claim 5, wherein the resolution converter performs resolution conversion on image data at a conversion rate such that the resolution of the image data as a base of conversion (see column 12, lines 14-17) and a resolution after the conversion are fallen into a predetermined range (see column 12, lines 10-14).

5. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishigaki in view of Imaizumi as applied to claim 1 above, and further in view of Minamino (U.S. Patent number 6,204,934 B1).

Regarding claim 3, Nishigaki discloses the image processing apparatus according to claim 1, wherein the data format converter comprises an expander that expands the image data stored in the image storage unit (see abstract and column 5, lines 50-54); and a data compressor (see column 6, lines 53-57) that compresses the binary image data in a binary general compression format.

Nishigaki does not disclose a binary unit that converts the image data expanded, which is monochrome multinary image data, to binary image data.

However, Minamino discloses a binary unit that converts the image data expanded, which is monochrome multinary image data, to binary image data (see column 1, lines 33-34 and column 4, line 48).

It would have been obvious to someone of the ordinary skill in the art at the time when the invention was made to use [Minamino's] binary converter in [Nishigaki's] image processing apparatus in order to increase quality color printer [Minamino's, column 1, lines 13-15].

6. **Claims 4 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishigaki in view of Imaizumi as applied to claim 1 above, and further in view of Kato (U.S. Publication number 2001/0012397A1).

Regarding claim 4, Nishigaki and Imaizumi disclose the image processing apparatus according to claim 1, wherein the data format converter (see column 2, lines 34-41).

Nishigaki and Imaizumi do not disclose a color space converter that converts a color space of the image data stored in the image storage unit, which is color multinary image data, to a general color space.

Kato discloses a color space converter that converts a color space of the image data stored in the image storage unit, which is color multinary image data, to a general color space (see column 6, paragraph [0151]).

It would have been obvious to someone of the ordinary skill in the art at the time when the invention was made to use [Kato's] binary converter in [Nishigaki's] and Imaizumi's] image processing apparatus in order to reduced the memory capacity and the transmission data volume [Kato's, column 1, paragraph [0004] lines 4-5].

Regarding claim 7, Nishigaki and Imaizumi disclose the first data format of image (see column 2, lines 24-25).

Nishigaki and Imaizumi do not disclose the image processing apparatus according to claim 1, further comprising an imaging unit that forms an image on a recording medium based on the image data stored in the image storage unit, wherein a printing function is combined with the imaging unit to adapt the first data format of the image store in the image storage unit to a data format used in the imaging unit.

Kato discloses the image processing apparatus according to claim 1, further comprising an imaging unit that forms an image on a recording medium based on the image data stored in the image storage unit (see column 8, paragraph [0186]), wherein a printing function (see column 6, paragraph [0141] lines 2-3) is combined with the imaging unit to adapt the first data format of the image data stored in the image storage unit to a data format used in the imaging unit.

It would have been obvious to someone of the ordinary skill in the art at the time when the invention was made to use [Kato's] binary converter in [Nishigaki's] and Imaizumi's] image processing apparatus in order to reduced the memory capacity and the transmission data volume [Kato's, column 1, paragraph [0004] lines 4-5].

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aklilu k. Woldemariam whose telephone number is 571-270-3247. The examiner can normally be reached on Monday-Thursday 6:30 a.m-5:00 p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alexander Eisen
SPE
Art Unit 2609

A.W.
6/22/07